

gray pollinose, the vitte indistinct; three postsutural and two sternopleural macrochæte, scutellum bearing three long marginal pairs. Abdomen gray pollinose, three rows of spots, united on last segment, 2d and the venter, black; first two segments each with a marginal pair, the other two each with a marginal row of macrochæte. Last two joints of front tarsi unusually slender, the under side of the dilated two preceding joints bearing a large cluster of long black hairs; claws of front tarsi scarcely one-third as long as the elongated last tarsal joint. Wings hyaline, costal spine longer than the small crossvein, calypteres white.

♀—Differs from the ♂ as follows: Frontal vitta yellowish pollinose, sides of face bearing short bristly hairs, front tarsi dilated, destitute of a cluster of hairs. Length 7 mm.

Avalon, N. J. (June 29, 1894; C. W. Johnson), and Northern Illinois (Dr. W. A. Nason). One specimen of each sex.

## NEW NORTH AMERICAN TETTIGINÆ.—II.

BY ALBERT P. MORSE, WELLESLEY, MASS.

### *Tettigidea armata*, sp. nov.

Very similar to *T. acuta* Morse (JOURN. N. Y. ENT. SOC. III, 15), differing in having a less projecting vertex, and a distinctly or strongly rugulose pronotum with sharp carinae. The anterior margin of the pronotum is usually more produced, with excavated sides, and terminates in a sharply pointed cusp. The median carina is distinct, sharp, nearly horizontal, with sometimes a slight depression opposite the tegmina. In the type the wings and pronotum pass the hind femora considerably but a short-winged form occurs, described below as *depressa*.

1 pair (*in coitu*), 4 ♀ ♀, Vigo Co., Ind., collected by Prof. W. S. Blatchley. 1 ♀, Dallas, Texas, Boll (M. C. Z.). 1 ♂, 1 ♀, "Tettig. lateralis," no locality, in Scudder's collection; probably this species.

| Antenna.    | Hind fem. | Pronotum. | Pron.>H. fem. | W'gs.>Pron. | Total.    |
|-------------|-----------|-----------|---------------|-------------|-----------|
| ♂ 3.5       | 6.        | 11.5      | 1.7           | .7          | 12.8      |
| ♀ 4.        | 7. -8.    | 13.8-16.3 | 2.5-3.5       | 1.1-1.7     | 15.4-17.7 |
| ♀ (Tex.) 5. | 8.5       | 16.5      | 2.8           | 1.2         | 18.       |

### *T. armata depressa*, var. nov.

This is doubtless the short-winged form of *armata*, differing only in having the pronotum equalling or not reaching the tip of the hind femora and the wings more or less abortive; the dorsum of the pronotum is sinuate in profile, being more or less depressed at tip and opposite shoulders.

1 ♀, Vigo Co., Ind., Blatchley. 1 ♂, Jacksonville, Fla., Ashmead; 1 ♀, New Orleans, La., Coleman, received from Prof. Bruner. 1 ♀, St. John's River, Fla., J. A. Allen (M. C. Z.). 1 ♀, Ft. Reed, Fla., collected by Comstock, determined as "Tettig. lateralis" by

Scudder (Cornell Univ.). The ♂ from Florida was referred by Bruner with some doubt to *Batrachidea fluvo-notata*.

| Antenna. | Hind fem. | Pronotum. | Pron.<H. fem. | Total.   |
|----------|-----------|-----------|---------------|----------|
| ♂ —      | 5.5       | 7.7       | 1.5           | 8.5      |
| ♀ 4.     | 7.-8.     | 11.-12.   | 0.-5          | 11.5-13. |

### *Tettigidea spicata*, sp. nov.

A small, slender, southern species, intermediate in structure of vertex between *apiculata* and *armata*, but more nearly allied to the latter. The vertex is more projecting than in *armata*, the body is narrower across the shoulders, the lateral carinae of pronotum are but slightly developed, the median carina is less distinct, and the disc is more finely rugulose.

1 ♂, Georgia (Henshaw); 2 ♀ ♀ Florida, Morrison (Bruner).

| Antenna. | Hind fem. | Pronotum. | Pron.>H. fem. | W'gs.>Pron. | Total.    |
|----------|-----------|-----------|---------------|-------------|-----------|
| ♂ 3.3    | 5.5       | 10.5      | 1.7           | .7          | 11.6      |
| ♀ 4.     | 7.6       | 14.4      | 2.5           | .7-1.       | 15.6-16.2 |

### Restoration of Harris' name to the New England species of *Tettigidea*.

Continued study of the group of forms commonly referred to under the names of *Tettigidea lateralis* and *polymorpha* convinces me that it is composed of several distinct species, not, however, to be distinguished by the length of pronotum and wings as has so commonly been done, but by characters presented in the form of the head and pronotum aside from mere length of the latter. As has been noted above, several species may be readily separated into a group having the front margin of the pronotum produced into a sharp, pointed cusp; in the remainder the margin is either rounded or obtuse-angulate.

To this latter group belong the forms described by Say as *Acrydium laterale* (long-winged) from Georgia and East Florida; by Burmeister as *Tetrix polymorpha* var. *A* and *B* (long- and short-winged) from South Carolina, and by Harris as *Tetrix parvipennis* (short-winged) from Massachusetts.

The southern forms of this group, as well as those with cuspidate pronotum, are dimorphic in wing-length.

Examination of nearly four hundred specimens from various parts of the country, but especially from the central and southern States, and comparison with a large series of New England examples reveals the fact that the New England forms referred to in my previous papers as *lateralis* and *polymorpha* or "the northern form of *lateralis*" are distinct from those found in the region from which Say and Burmeister's

specimens were procured, thus rendering necessary the restoration of Harris' name to the New England species. As a designation for the long-winged form is desirable, I here propose for it the name *pennata*, and, believing the two forms to be one species, its full name becomes *T. parvipennis pennata*.

In arriving at these conclusions I have been especially aided by an excellent series of specimens collected in Indiana by Prof. W. S. Blatchley, some of which were obtained directly from him through exchange or for examination, and others were kindly loaned by Dr. J. L. Hancock, of Chicago. I wish to call attention to the importance, in in some cases even the necessity, of series of specimens in order to arrive at a definite knowledge of the group.

I have examined specimens of *parvipennis* from New England, New York, New Jersey, Pennsylvania, West Virginia, Indiana, Illinois, Minnesota and Ottawa, Canada. In Vigo Co., Ind., it is about equally common with another dimorphic species included under the name of *lateralis* (and *polymorpha*) by Blatchley. This latter species I have seen also from Maryland, West Virginia, southern Illinois, Kentucky, Tennessee, North Carolina, Mississippi, Louisiana, Texas. For the present it may be called as heretofore though it is doubtful if it is identical with the Florida form described by Say. Small series of specimens before me from Florida, Georgia and North Carolina present certain differences from it and between themselves which may be regarded as either varietal or specific, at present it is impossible to say which is the more probable. As soon as time and material permit I intend to supplement these descriptions by presenting drawings of these various forms and of all the species of the genus obtainable, whose discrimination in the absence of figures is attended with much difficulty.

The characters of *parvipennis* which distinguish it most readily from the other species are the strongly projecting vertex, less prominent eyes (see Morse, Notes N. E. Acrid. I, *plate*: Psyche, Oct., 1894) and stouter antennæ. The lateral carinæ of the pronotum are usually but slightly sinuate, the anterior portions being distinctly divergent and passing rather smoothly into the humeral portions. The antennæ are slightly flattened, the joints of the middle third not over two or two and-a-half times as long as broad. In the other species the antennæ are filiform, and the joints of the middle third are three to four times as long as broad; the vertex is less projecting, the eyes more prominent, and in some the lateral carinæ are parallel in the anterior part of their course.